

Amendments to the Claims

Please amend the claims according to the following listing of the claims.

1. (Currently Amended) A method of fabricating a membrane-electrode assembly (MEA), particularly for PEM fuel cells,  
wherein the MEA comprises a polymer-electrolyte membrane (PEM) having reaction layers applied to both sides and optionally having gas distribution layers, wherein at least one of the reaction layers includes at least one catalytic component and an electron conductor, and  
wherein the method comprises the following steps:
  - A) introducing ions of the at least one catalytic component into the polymer-electrolyte membrane and/or into an ionomer introduced into the reaction layers,
  - B) applying the electron conductor to both sides of the polymer-electrolyte membrane,
  - C) electrochemically depositing the ions of the catalytic component, the electrochemical deposition being carried out under fuel cell conditions, where an electrochemically active three-phase boundary is present, from the polymer-electrolyte membrane and/or from the ionomer, introduced into the reaction layers, onto the electron conductor on at least one side of the polymer-electrolyte membrane.
2. (Cancelled)
3. (Previously Presented) The method as claimed in claim 2, wherein a variation of operating conditions is effected during the deposition under fuel cell conditions.
4. (Previously Presented) The method as claimed in claim 1, wherein the electrochemical deposition of the ions of the catalytic component in step C) is

carried out under electrolytic conditions.

5. (Previously Presented) The method as claimed in claim 4, wherein the electrolytic conditions comprise the application of a constant or time-variant DC voltage or an AC voltage.
6. (Currently Amended) A method of fabricating a membrane-electrode assembly (MEA), particularly for PEM fuel cells,  
wherein the MEA comprises a polymer-electrolyte membrane (PEM) having reaction layers applied to both sides and optionally having gas distribution layers, wherein at least one of the reaction layers includes at least one catalytic component and an electron conductor, and  
wherein the method comprises the following steps:

A) introducing ions of the at least one catalytic component into the polymer-electrolyte membrane and/or into an ionomer introduced into the reaction layers,

B) applying the electron conductor to both sides of the polymer-electrolyte membrane,

C) electrochemically depositing the ions of the catalytic component, the electrochemical deposition being carried out under fuel cell conditions, where an electrochemically active three-phase boundary is present,

from the polymer-electrolyte membrane and/or from the ionomer, introduced into the reaction layers,

onto the electron conductor on at least one side of the polymer-electrolyte membrane,

wherein in step C) at least one element from the 3<sup>rd</sup> to 14<sup>th</sup> group of the periodic table of the elements is deposited as the catalytic component onto the electron conductor on at least one side of the polymer-electrolyte membrane.

7. (Previously Presented) The method as claimed in claim 1, wherein in step C) at

least one of the elements Pt, Co, Fe, Cr, Mn, Cu, V, Ru, Pd, Ni, Mo, Sn, Zn, Au, Ag, Rh, Ir or W is deposited as the catalytic component on the cathode-side electron conductor.

8. (Previously Presented) The method as claimed in claim 1, wherein in step C) at least one of the elements Pt, Co, Fe, Cr, Mn, Cu, V, Ru, Pd, Ni, Mo, Sn, Zn, Au, Ag, Rh, Ir or W is deposited as the catalytic component on the anode-side electron conductor.
9. (Previously Presented) The method as claimed in claim 1, wherein the electron conductor comprises carbon in the form of a bonded fiber web, fibers or powder.
10. (Previously Presented) The method as claimed in claim 1, wherein the electron conductor applied in step B) comprises at least one catalytic component from the group consisting of Pt, Co, Fe, Cr, Mn, Cu, V, Ru, Pd, Ni, Mo, Sn, Zn, Au, Ag, Rh, Ir or W.
11. (Previously Presented) The method as claimed in claim 1, wherein in step B), together with the electron conductor, an ion conductor is applied to at least one side of the polymer-electrolyte membrane.
12. (Previously Presented) The method as claimed in claim 1, wherein the catalytic component in step A) is introduced into the polymer-electrolyte membrane in an amount of from 0.000005 to 0.05 mmol/cm<sup>2</sup>.
13. (Currently Amended) A method of fabricating a membrane-electrode assembly (MEA), particularly for PEM fuel cells,  
wherein the MEA comprises a polymer-electrolyte membrane (PEM) having reaction layers applied to both sides and optionally having gas distribution layers, wherein at least one of the reaction layers includes at least one catalytic component and an electron conductor, and  
wherein the method comprises the following steps:
  - A) introducing ions of the at least one catalytic component into the polymer-electrolyte membrane and/or into an ionomer introduced

into the reaction layers,

- B) subsequently, applying the electron conductor to both sides of the polymer-electrolyte membrane,
- C) electrochemically depositing the ions of the catalytic component, which, in step A), were introduced into the polymer-electrolyte membrane and/or into the ionomer, introduced into the reaction layers, the electrochemical deposition being carried out under fuel cell conditions, where an electrochemically active three-phase boundary is present,  
onto the electron conductor.